Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application. By the present amendment, claims 2, 5 and 6 have been canceled without prejudice or disclaimer as to the subject matter contained therein.

Listing of Claims:

Claims 1-3. (*Canceled*).

Claim 4. (*Previously Presented*) A gas sensor comprising:

a gas sensing element including a cup-shaped cylindrical solid electrolytic element having a reference gas chamber defined therein, a measured gas sensing electrode provided on an outer surface of said solid electrolytic element, and a reference gas sensing electrode provided on an inner surface of said solid electrolytic element facing said reference gas chamber, and

a heater accommodated in said reference gas chamber,

wherein a contact portion is provided on an outer cylindrical surface of said heater so that said contact portion is brought into contact with an inside surface of said reference gas chamber,

a heat generating peak position of said heater being in the vicinity of said contact portion,

said heater having a heat generating section for generating heat in response to electric power supplied thereto, and

said heat generating section has a high resistive portion provided at a proximal end side thereof.

Claims 5-6. (*Canceled*).

Claim 7. (*Previously Presented*) A gas sensor comprising:

a gas sensing element including a cup-shaped cylindrical solid electrolytic element having a reference gas chamber defined therein, a measured gas sensing electrode provided on an outer surface of said solid electrolytic element, and a reference gas sensing electrode provided on an inner surface of said solid electrolytic element facing said reference gas chamber, and

a heater accommodated in said reference gas chamber,

wherein a contact portion is provided on an outer cylindrical surface of said heater so that said contact portion is brought into contact with an inside surface of said reference gas chamber,

a heat generating peak position of said heater is in the vicinity of said contact portion,

said heater has a heat generating section for generating heat in response to electric power supplied thereto, and

said heat generating section has a high resistive portion at a distal end side thereof and another high resistive portion at a proximal end side thereof.